

Section 13. Plantlet Production on a Grower's Seed Farm or Private Micropropagation Laboratory

The following conditions must be fulfilled before plant material produced by a private micropropagation laboratory, including a grower's individual seed farm, will be accepted into Montana's Limited Generation Certification Program.

A. Propagation sources must be disease-free materials.

B. Testing

1. All initial *in vitro* mother plant materials must be tested for PVX, PVY, PVS, PVA, PLRV, (potato leaf roll virus), PVM, AMV (alfalfa mosaic virus), PMTV (potato mop top virus), *Pectobacterium atrosepticum* (black leg), and *Clavibacter michiganensis* subsp. *sepedonicus* (ring rot) by ELISA or PCR; must be tested for TRV (tobacco rattle virus) by PCR; must have the PSTVd (potato spindle tuber viroid) test by PCR or nucleic acid hybridization assay; and tested using electron microscopy for rod shaped particles. These tests will be made by the Montana State Potato Laboratory or by an independent testing laboratory approved by the Montana Seed Potato Certification Program. The testing results are to be sent to the Montana seed grower and will serve as the documentation source for the certification office.

2. Plantlet populations or mini-tubers produced in a greenhouse also shall be randomly tested for all diseases of concern. A minimum of one and one-half percent (1.5%) of plants shall be sent to the MSU Potato Lab prior to planting.

C. Classification

1. Plantlets increased in vitro (pre-nuclear) can be used as a source of nuclear, and the progeny will be classified as nuclear if they are 100% tested for all diseases by the MSU Potato Lab for diseases stated in Section 13, Item 2a., and the progeny will be classified as nuclear.

2. Minitubers produced in a greenhouse can be used as a source of Generation 1, and the progeny will be classified as Generation 1.

3. Minitubers produced in a greenhouse can be used as a source of nuclear for planting in the field if they are 100% tested during the nuclear field year, and the daughter tubers (Generation 1) are planted as family units the following year and 100% tested.

D. Structural, Cultural and Certification Requirements for Greenhouse Production

1. Greenhouse facilities must be insect-proof and approved by MSU Seed Potato Certification prior to planting.

a. Double-door entry with enough space for a dip-pan and room to remove/change coveralls.

2. Seed source must be tissue culture plantlets or microtubers produced by the Montana Seed Potato Certification Program. Propagation of plantlets is allowed in grower labs in approved facilities. New plantlets must be obtained from MSU each year, or if from Montana grower stock, must be tested by MSU each year.

3. New (sterilized) growth media shall be used for each planting.

4. Spring production should be registered for certification by the same deadline as for field registrations. Late summer and fall crops should be registered immediately after planting.

5. Contract production:
 - a. Two inspections are required. The first inspection will be performed during optimal plant growth and the second inspection will be performed just before vine kill. It is the responsibility of the grower to schedule the inspections with the certification program.
 - b. Leaf testing for PVA, PVX, PVY at 1.5% of plants
 - c. Tuber or stem testing for bacterial ring rot (*Clavibacter michiganensis*) and soft rot bacteria (*Pectobacterium* sp.) will be conducted before harvest. Sampling protocol will be defined by certification personnel on inspection and will be 10 samples per lot. "Lot" is defined as an individual variety in a defined growing unit of the green house (10) samples/bin, grow bed, grow bag or whatever the specific unit is).

6. Production of minitubers for planting on your own farm.
 - a. Visual inspections are optional
 - b. Leaf testing for PVA, PVX, PVY at 1.5% of plants

E. Cost

1. Growers involved will bear the cost of testing.